10/519,629

(FILE 'HOME' ENTERED AT 13:33:01 ON 12 DEC 2005)

FILE 'REGISTRY' ENTERED AT 13:33:13 ON 12 DEC 2005
L1 STRUCTURE UPLOADED
L2 0 S L1
L3 1 S L1 FULL

FILE 'CAPLUS' ENTERED AT 13:33:52 ON 12 DEC 2005
L4 1 S L3

=> d l4 bib abs

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:20693 CAPLUS
DN 140:77263
TI Preparation of 1,2,4-triazoline-3,5-dione-containing ferrocene compound and use thereof for determination of vitamin D compound
IN Ishigai, Masaki; Murao, Naoaki; Sekiguchi, Nobuo; Takahashi, Tadakatsu
PA Chugai Seiyaku Kabushiki Kaisya, Japan
SO PCT Int. Appl., 80 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2004002996	A1	20040108	WO 2003-JP8166	20030627
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1533316	A1	20050525	EP 2003-738537	20030627
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
PRAI JP 2002-188541	A	20020627		
WO 2003-JP8166	W	20030627		

OS MARPAT 140:77263
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Disclosed are a novel ferrocene compound represented by the following formula (I) [Q = a direct bond, alkylene, W1-X-W2; W1 = alkylene, phenylene; W2 = alkylene; X = O, N(Ra)CO, N(Ra)CONH, OCONH, N(Ra)OSO; Ra = lower alkyl; R, R' = H, HO, NO2, cyano, halo, each (un)substituted lower alkyl, lower alkenyl, lower alkynyl, lower alkoxy, lower acyl, CO2H, or CONH2; m = an integer of 1-3; n = an integer of 1-4], a reagent containing the compound, and a high-sensitivity method of determining a vitamin D compound with the reagent. Specifically, the ferrocene compound I is reacted with a VD compound, and the compound comprising these compds. combined with each other, i.e. a Diels-Alder adduct (II) [Q, R, R', m, n = same as above; A1, A3 = (un)substituted lower alkylene, alkenylene, or alkynylene; A2 = a direct bond, CH:CH, C.tplbond.C, O, S, NH; R1 = H, (un)protected OH; R2 = H, HO, halo, (un)substituted lower alkyl, alkenyl, alkynyl, alkoxy, or acyl; R3 = H, a protecting group; R4, R5, R6 = H, HO, NO2, cyano, halo, (un)substituted lower alkyl, cycloalkyl, lower alkenyl, lower alkynyl, lower alkoxy, lower acyl, CO2H, CONH2, or NH2; R7, R8 = H, OH; or R7 and R8 together form a double bond] is subjected to LC/ESI-MS/MS. Thus, the VD compound can be determined with higher sensitivity than in conventional

techniques. The ferrocene compound is extremely useful as an agent for derivative formation when a VD compound is determined by LC/ESI-MS/MS. The compound obtained, which comprises the ferrocene compound and VD compound which have been combined with each other, is useful as, e.g., a labeled compound in the determination of a VD compound by LC/ESI-MS/MS. Alfacalcidol in rat serum was determined by adduct formation with 4-(ferrocenylmethyl)-1,2,4-triazoline-3,5-dione at the lower detection limit of 0.08 ng/mL which was 125-times more sensitive than that of the direct method (10 ng/mL).

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

O
N
N
N
A
Fe

10/519,629

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	99	(548/103).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2005/12/12 14:05
L2	177	(556/144).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2005/12/12 14:12
L3	872	(514/167).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2005/12/12 14:28
L4	340	(514/502).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2005/12/12 14:28